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**SUBJECT:**     **ARCHITECTURAL TECHNICAL GUIDE 0006     (January 1, 2005)**  
**Kitchen and Bathroom Exhaust Ventilation:**  
**Requirements for New and Existing Single Family Housing and Multi-Family**  
**Housing Construction**

**PURPOSE:**

The purpose of this Architectural Technical Guide (ATG) is to discuss Rural Development Colorado's policy regarding providing effective room ventilation for kitchens and bathrooms in new and existing Single Family Housing Programs and Multi-Family Housing Programs assisted dwelling units.

**IMPLEMENTATION RESPONSIBILITIES:**

Exhausting grease and moisture laden air rapidly from residences in Colorado's cold climate is essential to reducing potential long-term fire hazard and moisture related problems in building materials. This is even more paramount nowadays with the recent developments in litigation involving mold in buildings. Following are recommended guidelines for new and existing construction.

**New Construction**

All kitchens in newly constructed dwelling units should contain a rangehood above the range/oven, in accordance with Paragraph IV.D.3.a.(ii) of Rural Development Instruction 1924-A and in accordance with good practice, . Adequate ventilation for all bathrooms should be accomplished by an exhaust fan in lieu of a window. The rangehood and bathroom exhaust fans should contain a back-draft damper and should be ducted directly to the exterior of the structure. No such ductwork should be permitted to exhaust into the attic or crawlspace of the structure. The rangehood and bathroom exhaust fans should have a minimum capacity rating equivalent to the criteria stated in Exhibit A to this ATG as well as applicable model building code requirements in force in the jurisdiction of the project.

## **Existing Construction**

All kitchens in existing dwelling units should be retrofitted to contain a rangehood above the range/oven, if not already provided, in accordance with Paragraph IV.D.3.a.(ii) of Rural Development Instruction 1924-A and in accordance with good practice. All bathrooms should be retrofitted to contain an exhaust fan, if not already provided, even though a window may already be present. Historical evidence has shown that bathroom windows are not opened frequently for ventilation during cold Colorado winters. Achieving adequate ventilation is extremely important, especially in cases where only radiant space heating is being provided and no positive air pressure is being induced by a forced air system. The rangehood and bathroom exhaust fans should contain a back-draft damper and should be ducted directly to the exterior of the structure. No such ductwork should be permitted to exhaust into the attic or crawlspace of the structure. The rangehood and bathroom exhaust fans should have a minimum stated capacity rating equivalent to the criteria stated in Exhibit A to this ATG as well as applicable model building code requirements in force in the jurisdiction of the project.

The State Architect may be consulted should any questions arise regarding retrofitting problems or other related matters.

DAVID W. RIGIROZZI  
State Architect  
USDA/Rural Development

Attachment: Exhibit A: "Kitchen Rangehood and Bathroom Exhaust Fan Sizing Requirements"

## **KITCHEN RANGEHOOD AND BATHROOM EXHAUST FAN SIZING REQUIREMENTS**

*(The following requirements have been extracted from Rural Development Colorado's Development Standards, per Rural Development Instruction 1924-A, and should be used as a quick reference for sizing rangehoods and bathroom exhaust fans. These requirements are not intended for recirculating exhaust systems.)*

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### KITCHEN RANGEHOODS:

<u>Fan Capacity (cubic feet per minute*)</u>	<u>Room Size (square feet)</u>
15	55 or less
17	56 to 64
19	65 to 71
21	72 to 79
23	80 to 86
25	87 to 94

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### BATHROOM EXHAUST FANS:

<u>Fan Capacity (cubic feet per minute*)</u>	<u>Room Size (square feet)</u>
30	45 or less
35	46 to 52
40	53 to 60
45	61 to 68
50	68 to 75

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\*Please note that actual proposed fan capacities will normally probably significantly exceed the shown values.